DOCUMENT RESUME

ED 248 480 CS 007 763

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TITLE Writing to Read: A Computer-based, Language Experience, Writing and Reading System, as Used with Handicapped Children.
PUB DATE Mar 84
NOTE 29p.; Paper presented at the Annual Meeting of the Western Regional Reading Conference of the International Reading Association (10th, Reno, NV, March 1-3, 1984).
PUB TYPE Reports - Descriptive (141) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Computer Assisted Instruction; Elementary Education; Language Acquisition; Language Processing; Language Skills; *Learning Disabilities; Microcomputers; Program Descriptions; Program Evaluation; *Reading Instruction; Skill Development; Teaching Methods; *Writing Instruction
IDENTIFIERS *Reading Writing Relationship

ABSTRACT

"Writing to Read" is a computer based program designed to teach students with learning handicaps to "write to read." The philosophy of the program is that students will learn to read more effectively and efficiently if they are taught to write--to encode their normal language as the initial process in learning to read. Through the use of the IBM Personal Computer, the "Writing to Read" program develops skills by teaching children the phonemic constituents of the English language--not only the 26 letters of the alphabet, but also the 42 sounds of English that are represented in many different ways. It teaches them how to combine sounds and letters to create words, turn words into sentences, and write stories that are illustrated, bound into books, and read to the students' peers and to others. The program generates a great deal of student pride in their work and has been successful with approximately 600 students with a variety of learning problems. (An observation checklist for possible problems in language and intellectual development is included.) (Author/HTH)

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"WRITING TO READ"

A Computer-based, Language Experience, Writing and Reading System, as used with handicapped children

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Abstract

"Writing to Read" is a computer-based program designed to teach students to "write to read." The philosophy of the program is that they will learn to read more effectively and efficiently if they are taught to write, to encode their normal language as the initial process in learning to read. Through the use of the computer, the "Writing to Read" program develops the skills required to be successful writers and readers by teaching the children the phonemic constituents of the English language, not only the 26 letters of the alphabet, but also the 42 sounds of English which are represented in many different ways. It teaches how to combine sounds and letters to create words; words into sentences and finally writing stories which are illustrated, bound into books, and read to their peers and others.

The children take great pride in their work. The program has been a "great success" with the children who have a variety of problems/ disabilites.

WRITING TO READ

A COMPUTER-BASED, LANGUAGE EXPERIENCE, WRITING AND READING SYSTEM

By Dr. Eleanor R. Kirkland, Professor
California State University, Sacramento

Today we have many concerns regarding the education of our children. There is a concern for the number of "illiterate" children, particularly those at the secondary level. The Council on Literacy says functional illiteracy costs more than $224 billion a year. We pay the price in incompetent job performance, lost tax revenue, crime, welfare payments and remedial education.

There are college and university students who cannot pass writing and reading tests written at approximately the 9th-10th grade levels.

In many schools across the country we find large numbers of new immigrants who have little or no English.

In addition we also have large numbers of children with Communication/Reading Problems, and those with Learning/Physical Disabilities which deter learning. Of all the students who experience failure in some way, reading receives the most attention. It is the most commonly studied academic subject in Learning Disabled Research.

Writing and Reading are certainly very important skills regardless of grade level; the careers which lie ahead; and the ability to become productive adults and citizens.

Our life styles and the industrial aspects of our country are changing rapidly. Electronics, robots, computers, etc. have become more prevalent. Computers, particularly are appearing more often and in larger numbers in our school. Many think the computer has a great

potential in education. I believe this is correct if we are more careful in the selection of our software. A great deal of the programing/the software is very poor - no better than another ditto or work-book page. There is still a lot of work to be done to improve these programs, etc.

WE MUST DO SOMETHING TO SOLVE THESE PROBLEMS!

Research has shown us that all children acquire and develop language skills in the same order and sequence, regardless of where they are born; what language they will speak. Throughout the world they all produce the same sounds and in the same order, due primarily to their physical development. The first sound made by infants throughout the world was "aaah" which doesn't require any control - they merely open their mouth, and a small amount of air emitted will produce "aaah" which we call a short vowel. The next step is producing sounds with some control of their lips - the first being "mmm" then the combination of the "mmm" and the "ah" becomes "Ma". You know what happens - a woman is standing close by - she hears the child say "Ma" which immediately becomes Ma-ma, or mother to her - with a little encouragement the infant will say "ma ma, ma, ma," because it is fun, and so it goes. Research also found that in most languages the world meaning mother started with "mmm"; Mutter in German, Madre in Spanish, etc.

Gradually, the sounds are put together to make syllables and eventually into words of the language spoken around them. As they acquire that language, they stop making the sounds that are not

included in their native language. e.g. An English speaking child will no longer make the "gutteral" sounds of German, the rolling "Rs" of French or the "clicks" of some African languages, etc. unless of course they learn these languages later.

In the development of their language and their language skills, they first listen, they hear the language being spoken around them. The next step is speaking, they begin to make sounds and later words to convey a message, to communicate with others. It is interesting to note that all children throughout the world speak first of the same things: the people and things around them (nouns); and things they do (verbs). Third, they write. Again, research has shown that the scribbles of all young children have been found to include shapes and forms that resemble letters of their alphabet, numerals, musical notes, familiar looking symbols such as "X" for Railroad Crossings, etc. These scribbles gradually come to look more like words that are familiar to children. Many will write something and tell you what it says - or they will ask you what it says. The final step is reading - what they have written, or what someone else has written.

If we know that this is the natural way for children to learn to write and read, why do we continue to use other methods or procedures which tend to confuse many children. All children have something to say. All children like to see what they say in writing; and if it can be written, it can also be read.

"What I can say -

I can Write and

What I can Write -

I can Read!"

Through the use of the computer, the "Writing to Read" program develops the skills required to be successful writers and readers. The students learn that the sound they make when they speak can be made visable; that words made visible is writing. They are taught, at first, to write the words the way they sound. The philosophy of the program, designed and developed by Dr. John Henry Martin, is that children will learn to read more effectively if they are taught to write, to encode their normal language, as an initial process in learning to read.

The Personal computer equipped with voice output and color graphics plays a central role in the program. The other components include work journals that parallel the computer lessons, a listening library of children's classics, typewriters, printers and games.

The "PC" using a digitized voice attachment, which eliminates the nasal sound that occurs in most computers; comes with 30 diskettes. The structure of the "Writing to Read" program is deceptively simple. Based on 30 key words and the phonemes which compose them, the system teaches children to write words the way they speak them, the way they sound phonetically. In the first lesson, for example, the "C" in Cat is taught as "K" sound, not a "see" sound. There are 26 letters in the alphabet, and 42 phonemes which are represented 500 different ways; and

are needed to speak all the words of English. For instance, the sound is the same, but the spelling differs, for the "oo" in school) and the "ough" in through. It is no wonder that English is the most difficult language to learn to write and read.

Consistent use of a phonemic spelling system allows children to write, using their rich vocabulary, at a much earlier stage than if they were required to absorb all of the inconsistencies of the English spelling system. As children develop their writing proficiency they will begin to recognize these inconsistencies and adjust their writing to textbook spelling.

The phonemes are displayed around the perimeter of the "PC" screen and as the computer "voice" calls out a sound or word the phoneme/ phonemes leave the place and moves to the center of the screen. The "PC" section of the program in which the children spent 30 minutes, working in pairs, relies heavily on repetition. In the first lesson, there are 33 repetitions of the word "cat", with the computer saying the word, asking the children to say it, spelling the word out loud, then asking the children to spell it on the keyboard.

The program is individualized to the extent that the learning-cycles are self-paced. The computer waits for the correct response and does not respond to a wrong one. In other words, when the child is asked to "type" or "write" cat, and he makes an error, the letter does not appear on the screen. In a mastery test at the end of each cycle, students are asked to write the words they have just

learned. If two errors are made, the computer recycles the program back to earlier instruction.

The 10 cycles each consist of three key words and branch out to introduce other words which can be formed by the same sounds. The 30 words introduced in the 10 cycles, present to the child the 42 phonemes of English.

Other computer instruction includes games, including one where a child had to write the word "mouse" fast enough to keep a pictured cat from catching a pictured mouse. In the "silly sentences" segment, intended to move children into sentence construction, the children are asked questions like, "Did you ever see a pig in a bed?" (Pig an bed being 2 words that are introduced in cycle 2.); they are show a funny picture of the thought and then helped to write a sentence.

The evaluation of the "Writing to Read" program during its early years (1978-81) provided enough information as to the success of the children, so that Dr. Martin copywrited his computer-based teaching system. It was a beginning of a new phase for the "Writing to Read" system as Dr. Martin and IBM teamed up to plan an evaluation of its use in schools nationwide; there were approximately 10,000 children (Kindergarten - 2nd grade), in six states, in the study which started in the Fall of '82 school year and was extended for another school year ('83-'84). During this past year approximately 15,000 children were involved in the program which had extended its use to children with problems and disabilities; and various grades and age levels. The program is being evaluated by the Educational Testing Services,

Princeton, N.J. and the results of the past two years shall be available shortly.

For the program, IBM loaned the equipment and published the program's printed and audio materials. (IBM now has the copywrite to the program.) The printed materials also include "Teacher's Manuals" which provide additional materials, suggestions, and activities to assist in the operation of the hardware.

In 1982, I was asked to direct a study outside of the original one which was used with Kindergarten - 2nd grade children. In June 1984 we completed this particular portion of the study. We have been concentrating on children who have problems in writing and reading for a variety of reasons. At the present I am also compiling a report which will show the progress of these children over the pat two years. Since this conference is concentrating on "Technology for Disabled Persons" I would like to describe the use of "Writing to Read" in four schools in the service area of California State University, Scramento.

Over the past two years approximately 600 students have been participating in my program. Everyone, other than those who moved, who were in the program from 1982 have completed all of the phases. We have had a very diverse group with many different problems. For example, it included: 1) a large group of Asian children of which approximately 50 were Hmongs, the hill people from Laos, who did not have a written language until several years ago when some missionaries, working with them, helped develop a method for putting their language into writing; 2) a special day class was made up of 4th, 5th and 6th

grade students (12 boys and 3 girls ranging in age from 12 to 18 years), all learning disabled. They were placed in the special class to help remediate their learning and social and emotional problems; 3) a group of children who had been placed in the Resource Special Education Centers; and 4) a Special Education Center. This school had a special wing added which was designed specifically for Special Education. There is a central "Writing to Read" center which houses all of the hard/software. Opening off the center are four classrooms with large open doorways: #1 is a self-controlled 1st and 2nd grade EMR class; #2 is a self-contained 2nd and 3rd EMR class; #3 a self-contained 4th-6th grade EMR class. The fourth room is the Special Education Resource Specialist Center. A schedule was worked out so that each classroom can have the children, teacher or aide participating in "Writing to Read." It is an ideal situation because the teacher can move back and forth from the center to her classroom to work with those children who are not scheduled in at that time. A new addition in one of the schools this past year was a special first grade class with quite a few Asian children and others who were really still at the readiness stage.

Inservice was provided for the Directors, Specialists, Classroom Teachers, Aides and Administrators before the centers were put into action. Meetings were also held with the parents and other community people who were interested in the program. The staff of each center and the school administration met with me once a month to discuss the programs, problems, suggested changes, etc. Due to the diversity of our

children, the expanded age group, etc. we did modify to some extent the "Writing to Read" program as developed and used with Kindergarten and First/Second Grade children.

All of the participants did, however, follow all of the steps and procedures of the 10 phases of the program. The modifications were made to meet the needs of the children. For example, in pairing the Asian children to work on the computer or the journals, we scheduled an English speaking child with an Asian child - particularly the Hmongs who had the greatest problems with writing. In order to help these children develop their vocabulary and an understanding of putting these words into thought/sentences, we organized group activities for them - both the English speakers and the Hmongs who were very limited in English. In the first sequence they learn the words Cat, Dog and Fish and the three sound symbol relationships of the word - e.g. the c, the a, and the t of cat. We took pictures of cats from the Peabody Kit and used them to develop vocabulary. We talked about the pictures of cats, what they looked liked, what they ate, what they did, etc. Then, as a group, a story was created; written on the board, read and reread; and finally written on a chart which as put in the "writing" corner. The children were encouraged to copy the story and illustrate it. After they had been introduced to the three words introduced in Phase I (cat, dog, and fish which introduced 10 sounds of English); and having gone through the process mentioned earlier one of the Hmongs's wrote:

"I see dog.

Dog eat fish.

I crying."

The picture he drew to illustrate his story was a dog with a fish in his mouth.

This was remarkable considering that he had only been in the program for about five weeks, had very little English, and had done very little writing before entering the "Writing to Read" program.

In some cases, because of the difference in problems, levels of ability, etc. it was impossible to pair all of the children who went to the Special Education Resource Center. Consequently, some of those children worked on their own at the computer and journal station. They did participate with other children in some of the other activities, however.

During the "inservice" which was held before the program got underway, we encouraged the teachers to implement the program in the classroom; to encourage children to read their stories to other children in their class, etc. Because there was concern with the spelling of the older students if they were encouraged to "write the way it sounds," we used the following procedures:

When the children have completed the exercises in the journal they are asked to write a story using the three words and the sounds introduced in that cycle. They learn that they can write everything they can say. With the help of the teacher or aide, they learn to re-write, to improve the clarity of their thinking on paper, and to use

the correct phonemic symbol in writing their words. The adults are encouraged, not to tell the child how to write the word, but rather to give a clue such as, "do you remember the sound you heard at the end of "fish"?

Actually a great deal of "word processing" takes places in the writing of their stories. After correcting their writing with the help of an adult, they type their study on the "PC"; read it on the screen; and if that is what they want to say, they put their story on the printer. This copy is edited more carefully, particularly with the older children.

In the editing process they were taught how to write the words as they would appear in other books, how to write paragraphs (indent), etc. They then took their edited story with suggested changes to the typewriter and produced a finished product that they could be proud of. They pasted their story on a piece of colored construction paper and illustrated it. These were then taken to the classroom to read to others; posted on bulletin boards or bound in a book.

At the "writing station" the children move to the typewriters to write their "final edition" of their story. When many children are put through the painstaking effort of writing with a pencil, they tend to forget the word the letters express. With a typewriter, the letters are perfect and can be put together into words more rapidly. The children take great pride in their writing.

The progress they made in writing their stories was amazing. This process was eventually used with all of the children except the early readers, or students new to the program.

The aspect that I found most helpful for those children who had learning problems or some physical disability was the multi-sensory approach. Each child uses all of his senses when working on the computer - (1) he sees the word, (2) he hears the word, (3) he says the word, and (4) he writes the word. Their learning is being reinforced continually. Children who lack coordination/both small and large motor, have a difficult time holding a pencil, writing between the lines, forming the letters in a certain way, etc. These children do have ideas (many of them), and they have the words to describe, define and communicate their ideas, but they cannot put it down on paper. They can, however, press the keys on the computer or the typewriter; they can see their words in writing and they can read those words to himself or to others. One child who was very uncoordinated had a difficult time holding a pencil, let alone write on paper by touching the dotted line, drawing a circle or circling to the left to make a "C"; etc. He had completed the first phase which introduced cat, dog a fish and was doing the "mastery test" which merely asks each child to write the words cat, dog, fish - giving him one opportunity to do it correctly. The voice said "write cat." The boy wrote cat on the computer, it appeared on the monitor because he did it correctly. He called out "Wow, I can Write!" - the child's first feeling of success in writing.

Children with minimal motor control can use special gadetry such as sensitive micro-switches, light pens, or joy sticks to reach beyond their physical restriction and learn language through interaction with the computer.

Another example: Robert - a child who had been retained in first grade and now was in second grade. His past teachers all commented that he had done nothing for almost three years; that it was like "pulling teeth" to get a response, pay attention, etc. He had been assigned to the Special Education Resource Center. One day I was visiting the Center. Robert came up to me and said with a big smile "I can write cat." His friend who was standing next to him said, "He can write dog," too. Where upon Robert replied, "I can write fish, too." I shook his hand and congratulated him. Several weeks later I happened to be there again when Robert was in the Center. The aide told me that Robert wanted to show me a story he had written in his journal. This is what he read to me:

Dogs get the cats.

Dogs always get the cats.

Cats get the fish.

Cats always get the fish.

Always was the only word he needed help with. This was after completion of Phase I of the program. This same child went from the 6th percentile to the 98th percentile in the reading portion of the WRAT test.

Teachers have indicated that not only are the children improving in their writing and reading skills; they are also enjoying the experiences, becoming more independent and are taking more responsibility for their learning. The children are taking pride in their work - particularly their writing of stories and books.

The program provides more time for the teacher to give more attention to those who have learning problems or disabilities; to plan stimulating activities to encourage language skills. It gives the children an opportunity to write of his own personal experiences, to share his stories with others.

Computers will not take the place of teachers in the classroom as has been suggested by some concerned teachers. Machines can't hug, so the teacher's role is all important.

N = New Student
R = Returned Student

EVALUATION
('83-'84)

RSP = Resource Special Education Program
NEP = Non-English Proficiency
LEP = Limited English Proficiency
ECIA = Title I
FEP = Faulty English Proficiency

Test Given: WRAT

*% Imp. = Percentile Improvement

Student Classification	Reading	*	Spelling	*
RSP	Grade Level Equiv.	% Imp.	Grade Level Equiv.	% Imp.
Average % Imp. (N)	1.1 =(1 yr., 1 mo.)	21.2%	1.5	28%
Highest Gain (N)	2.5	28%	1.8	31%
Average % Imp. (R)	2.7	33%	2.3	21%
Highest Gain (R)	2.9	63%	1.4	13%
NEP				
Average % Imp. (N)	1.6	18%	1.2	11%
Highest Gain (N)	1.8	49%	1.7	12%
Average % Imp. (R)	1.75	23%	1.9	26%
Highest Gain (R)	2.1	30%	2.5	31%
LEP				
Average % Imp. (N)	1.0	14%	1.8	29%
Highest Gain (N)	1.5	48%	2.6	43%
Average % Imp. (R)	.9	10%	1.5	25%
Highest Gain (R)	2.8	32%	3.3	50%
ECIA				
Average % Imp. (N)	3.1	68%	3.2	56%
Highest Gain (N)	5.3	90%	4.1	90%
Average % Imp. (R)	4.0	56%	3.0	88%
Highest Gain (R)	4.9	73%	4.3	84%

Most of the children we returned to the program the second year did complete the program (the 10 phases and the games) by the end of the school year. If they received 50% or more on the CAT (California Achievement Test) and had been placed in the Title I program (ECIA) they no longer were scheduled in the center for more remediation (at least not for Reading and Writing).

The EMR classrooms were a new addition this year, consequently very few completed the program. They will, however, be tested at the beginning of the '84-'85 school year on the mastery test for the phases compl1ted; review and drill will be provided for those which they had trouble with before moving on to the next phase. This group of students did exceptionally well for the time spent in the program.

At the end of the '83-'84 school year, there were 14 new children who were "Tested Out" of the program because they had passed the 50% in the CAT, although they may not have completed all 10 phases of the program. In the group there were 6 classified as LEP (Limited English Proficiency; 1 Bilingual child; and 7 FEP (Faulty English Proficiency).

Tested Out of Program

	WRAT			
Student Classification	Reading		Spelling	
LEP	Gr. Equiv. Imp.	% Imp.	Gr. Equiv. Imp.	% Imp.
Average % Imp.	1.6	23%	6.0	27%
Highest Gain	4.2	39%	4.6	68%
FEP				
Average % Imp.	3.7	79%	.7	53%
Highest Gain	4.5	79%	6.7	84%
1 Bilingual Child	4.9	29%	5.0	27%

Why it Works So Well With The Handicapped

Recent research has given us some suggestions and instructional recommendations for learning disabilities and reading. For example:

1) Because the L.D. learner is inattentive, inactive and unable to spontaneously generate appropriate learning strategies, remedial goals include activation of the learner and training in the selection and use of strategies for learning. The body of research in teacher effectiveness suggests that direct instruction may be an appropriate technology for facilitating achievement in the learning disabled. While most of the teacher effectiveness research has focused on regular education rather than Special Education, an attempt was made to relate these findings to educational interventions for handicapped learners. It was suggested that effective instruction is individualized, directed and academically focused. The "Writing to Read Program" provides this individualization. Children work at their own pace. The instructional approach derived from the teacher effectiveness literature is called direct instruction. Direct instruction can be defined as a set of teaching behaviors which attempts to maximize student attention and participation in academic relevant tasks. One important aspect of direct instruction is the relationship of engaged (or academic) learning time to allocated learning time and

student engagement. Student learning is related to time on task. The engagement of the student in the learning task thus becomes a major goal of instruction, and in direct teaching, the learning environment is structured to bring this about.

It is unlikely that large group instruction can adequately respond to the diverse learning needs and the variations in learning rate inherent in the learning disabled population. The computer-based "Writing to Read" program provides directed instruction and allows each child to move at his rate of learning. Computers are "patient."

2) Direct teaching occurs when the instructor demonstrates, models, defines, and explains.

3) Several studies of instruction with learning disabled students support direct teaching. e.g. One study reported a gain of three years in three months for a reading disabled adult in a direct instruction phonics program; training focused on the phonics/phonemic skills the individual had not yet acquired.

"Writing to Read" demonstrates, models, defines and explains. It also teaches the 42 phonemes of English and the sound/symbol relationship of these phonemes.

4) Use a code-emphasis approach for beginning reading instruction. The research of the last decade favors early

emphasis in decoding rather than comprehension. While the bulk of the research has taken place in regular classrooms, it would appear that a code-emphasis approach in beginning reading would also benefit learning disabled. The encoding (the writing) to decoding (reading) approach of "Writing to Read" provides this emphasis.

5) Focus learners on the task. The student must focus on the relevant features of the learning task. This is particularly true for students characterized by poor attention and distractibility. The opportunity to work with the computer certainly motivates the student and holds his attention.

6) Teach for automaticity and generalizations. Skill acquiring is not complete until skills can be performed quickly and accurately. To insure automaticity, we must provide opportunities for supervised practice. "Writing to Read" provides the practice required to allow the child to respond both quickly and accurately. The practice is provided in a variety of situations. Another important dimension of practice is the number of practice opportunities offered to the child by the program.

Comments From Teachers and Others

At our last meeting of the year, May '84, we had a good time discussing the program, how we felt about it, etc.

The program had been very successful for many reasons. Some of the positive aspects of the program as discussed and mentioned by those at the meeting were:

1. The multi-sensory approach to the English Language: hear the word, say the word, see the word and write the word. Use of all modes of learning: hearing, seeing, touching, and talking:
2. the repetition approach to the lesson aided memory skills;
3. change of activities from one center to the next;
4. positive reinforcement;
5. self-pacing of students;
6. use of typing for those who have small muscle coordination problems;
7. listening skills are reinforced;
8. the patience of the computer;
9. the orderly transition from one step to the next.
10. The journals provide a place to write words, sentences and stories and provide vocabulary skills.
11. Listening to the stories written by the children and input from the teacher on various subjects for each lesson improved language and vocabulary skills.
12. Typing stories or sentences on the computer and having them printed out was an exciting tool to learning. The students were delighted at the fact they could read their printed words to peers, teachers and parents.

13. Many of the learning handicapped children have concentration problems (short attention span). They also have a difficult time following directions, but they could not argue with the computer when it told them to do something. Many finally learned that excuses no longer worked.
14. The Special Education Resource Teacher must develop an IEP (Individual Educational Plan) for each student. This necessitates concentrating on certain areas of instruction. The Writing to Read Program became a part of the IEP and it also reinforced the phonics program that was used.
15. Another interesting aspect of the program was for the students to see phonemic spelling of words and then recognize the actual spelling and being able to spell them correctly.
16. The students enjoyed writing on the computer because they could correct all of their errors and have a perfect product. It was especially good for proof-reading their own work, which they often dislike doing.
17. The program encouraged vocabulary building in many ways and at all levels. The second and third grade children were asked to think of some more rhyming words for the new words from the "Make Word" pages, and write them. Fourth, Fifth, and Sixth grade students were required to find as many rhyming words as possible by using a dictionary. e.g. Fish is a word introduced in Phase I to introduce the sound represented

by "f", "i" and "sh". they came up with a large number of words such as accomplish, radish, etc.

In story writing, the older children who were required to write at least a three paragraph story using the three words introduced in that phase. They had to be very imaginative to work some of the words together;

Some of the older students really got into the story writing and this extended over to their classroom writing; and

18. The program provided more time for the teacher to give more attention to those who have learning problems and disabilities; to plan stimulating activities; to encourage language skills. It gives the children an opportunity to write of his own personal experiences, to share his stories with others.

"We are pleased to have been a part of the "Writing to Read" pilot program, study. It is a learning tool in our learning center. Contingent upon funding, we plan to increase the number of IBM computers and Writing to Read software to accommodate more students. The 'Writing to Read' program has provided our participating students with reading and language experiences and has aided in many students being 'tested out' of the ECIA, Chapter I, program by increasing their CAT scores in Reading above 50%."

Recommendations

We would like to see the W.T.R. program extended to better serve the intermediate students: e.g. a journal using more difficult words and pictures. We feel the intermediate students need the phonetic approach to reading as well as seeing their stories in print.

A word processor for elementary students would be a tool well worth adding to the W.T.R. program. The typewriters did not work well for some elementary students because of the lack of typing skills. The word processor would enable the student to immediately correct mistakes and print a perfect copy!

In conclusion, we would like to see this program extended to more words and groups of words for the more advanced students. I appreciate having the use of it this year and am looking forward to using it next year.

AN OBSERVATION CHECKLIST FOR POSSIBLE
PROBLEMS IN LANGUAGE AND INTELLECTUAL DEVELOPMENT
(Cognitive Domain)

Name of Student _____ Age: years _____ months _____

Name of Observer _____ Date of Observation _____

SYMPTOMS OF POSSIBLE PROBLEMS

	Generally	Sometimes
1. Does the student express vague and confused ideas?		
2. Does the student have difficulty comprehending actions and speech of others?		
3. Does the student have difficulty following simple directions?		
4. Does the student display inaccurate enunciation and/or pronunciation?		
5. Does the student fail to use new words in conversation and communication?		
6. Does the student fail to remember a sequence of events?		
7. Does the student speak only in short sentences?		
8. Does the student have difficulty categorizing and classifying (e.g., coat and gloves as clothing or drill and jigsaw as tools)?		
9. Does the student refuse to use language or speech?		
10. Does the student insist upon using gestures and body language?		
11. Does the student have difficulty telling a story about an illustration or filmstrip?		

SCORING CRITERIA ARE AS FOLLOWS:

"Generally" Responses X 2 = _____

"Sometimes" Responses X 1 = _____

Total Responses = _____

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AN OBSERVATION CHECKLIST FOR POSSIBLE
PROBLEMS WITH VISUAL-MOTOR SKILLS AND AUDITORY SKILLS

Name of Student _____ Age: years _____ months _____

Name of Observer _____ Date of Observation _____

SYMPTOMS OF POSSIBLE VISUAL-MOTOR PROBLEMS

	Generally	Sometimes
1. Does the student have difficulty catching, throwing, or batting a ball?		
2. Does the student have difficulty putting block designs together?		
3. Does the student have difficulty reproducing geometric shapes (e.g., a circle or square)?		
4. Does the student have difficulty writing or drawing in limited space (e.g., writing on lined paper)?		
5. Does the student assume an unusual head or body position when working at a desk?		
6. Does the student seem to confuse numbers, letters, or words that are similar in configuration?		
7. Does the student have difficulty putting a cartoon in sequence?		
8. Does the student make reversals of letters, numbers, or words while writing?		

SYMPTOMS OF POSSIBLE PROBLEMS WITH AUDITORY SKILLS

1. Does the student have difficulty repeating three to five digits in correct sequence?		
2. Does the student omit or substitute sounds in words?		
3. Does the student have difficulty following directions given to a group?		
4. Does the student request repetition of phrases or words?		
5. Does the student have difficulty distinguishing rhyming words?		
6. Does the student fail to identify common environmental sounds (e.g., sound of motorcycle or doorbell)?		
7. Does the student watch others to find what to do?		
8. Does the student continue to have difficulty with elementary phonics such as initial, medial, and final sounds?		

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SCORING CRITERIA ARE AS FOLLOWS:

Visual-Motor Skills		Auditory Skills	
"Generally" Responses X 2 =	_____	"Generally" Responses X 2 =	_____
"Sometimes" Responses X 1 =	_____	"Sometimes" Responses X 1 =	_____
Total Responses =	_____	Total Responses =	_____

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